INCREASED RISK OF EARLY AND LATE MORTALITY WITH FIRST DEGREE HEART BLOCK IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION.

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Little data exist regarding the prognostic significance of first degree heart block (1°HB) (PR interval >0.20 sec) in patients with acute myocardial infarction (AMI). We related PR interval measured on the initial ECG obtained within 24 hrs of onset of MI in 14,254 patients presenting with ST elevation in the first and second ISIS trials. By one year, there were 150 deaths/923 1°HB patients (16.3%) compared to 1,826/13,331 patients without 1°HB (13.7%). (Odds Ratio of 1.39, 95% CI 1.13, 1.7, p<0.001). Although patients with anterior MI had a higher mortality than patients with inferior MI, within each of these categories the presence of 1°HB increased the risk of death. (Anterior MI: Odds ratio of 1.62; 95% CI of 1.14, 2.28. Inferior MI: Odds ratio of 1.32; 95% CI of 1.02, 2.08). Presence of 1°HB was associated with a higher risk of death within 35 days (odds ratio of 1.45; 95% CI 1.14, 1.83) and between 36 days and one year (odds ratio of 1.23; 95% CI.86,1.76).
CONCLUSIONS: 1°HB in MI was associated with a 39% higher risk of death in this large data set. This excess risk of early and late mortality was independent of infarct site.

THE AUTOMATIC IMPLANTABLE CARDIOVERTER DEFIBRILLATOR IN PATIENTS WITH EJECTION FRACTIONS GREATER THAN 50 PERCENT

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An automatic defibrillator (AICD) was implanted in 18 pts with ejection fractions (EF) greater than 50% among 170 AICD pts with a history of sudden cardiac death (SCD) or sustained ventricular tachycardia (VT) from 1984-88. All [illegible] pts are alive a mean of 21 months post-implant (range 8-54 m).

Five pts (28%) had AICD shocks for symptomatic arrhythmias within the first 6 months and 4 of these have had additional shocks. None of the remaining 13 pts that were free of shocks for the first 6 months have subsequently had symptomatic discharges. Three pts (17%) had asymptomatic shocks. Electrophysiologic (EP) data of the 18 pts with EF greater than 50% are compared to 152 AICD pts with EF less than 50%.

Arrhythmia at EP	EF ≧ 50	EF < 50	p value
Ventricular fib	7 (39%)*	6 (4%)	≦.0001
Monomorphic VT	3 (17%)**	116 (76%)	≦.0001
Polymorphic VT	3 (17%)	13 (8%)	ns
Non-inducible	5 (28%)**	9 (6%)	≦.001

Each * indicates 1 pt with symptomatic AICD shocks.
CONCLUSIONS: 1) Despite good left ventricular performance, 28% of pts with SCD or VT will have recurrent arrhythmias within 6 months. 2) There has been no mortality in this group in part due to AICD arrhythmia control. 3) EP results in these patients differed markedly from those with EF less than 50% and did not predict subsequent arrhythmia recurrence.

Wednesday, March 21, 1990
2:00PM–3:30PM, Room 06
Implantable Defibrillators: Clinical Aspects

AUTOMATIC IMPLANTABLE CARDIOVERTER - DEFIBRILLATORS IN PATIENTS WITHOUT INDUCIBLE VENTRICULAR ARRHYTHMIAS.

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Automatic implantable cardioverter - defibrillators (AICD's) were implanted in 26 pts, mean age 55.7 ± 16.9 years, 8 of whom presented with ventricular tachycardia and 18 of whom presented with ventricular fibrillation ± ventricular tachycardia, without inducible (NI) ventricular tachycardia or ventricular fibrillation at baseline electrophysiologic study. Coronary artery disease was significantly less frequent (39% NI vs 80%), while cardiomyopathy (42% NI vs 15%) and primary electrical disease (15% NI vs 3%) were significantly more frequent in the NI group compared with a population of 80 inducible (I) pts. Other demographic and functional parameters and use of antiarrhythmic drugs did not significantly differ between groups. During a mean follow-up of 26.7 ± 17.7 months there were no significant differences between the NI or I groups with regard to occurrence of appropriate AICD discharges for syncope and/or documented ventricular tachycardia /ventricular fibrillation (23% NI vs 21% I), arrhythmic (8% NI vs 4% I) or overall (12% NI vs 15% I) mortality. Conclusions: 1) NI pts constitute a group who differ from I pts with regard to underlying cardiac disease process, but exhibit similar subsequent clinical courses to I pts after AICD placement and 2) NI pts derive a similar protective benefit from AICD implantation as I pts.

ACTUARIAL PROBABILITY OF INITIAL APPROPRIATE AICD SHOCKS OVER LONG-TERM FOLLOW-UP.

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Survivors of sustained VT and/or VF are known to be at high risk of early recurrence if no effective therapy is found. The AICD has been shown to improve survival in this group. To ascertain whether it is ever appropriate not to replace an AICD pulse generator in pts who have not experienced an appropriate shock for serveral years after implant, we retrospectively analyzed the records of 164 pts (mean age 60.3 ± 11.6 years, mean LVEF 33.3 ± 15.1%; 123 with coronary artery disease, 32 with cardiomyopathy, 56 with VT, 108 with VF) were followed for a mean of 26.6 ± 19.7 months. Appropriate shocks were defined as only those with ECG documentation or associated with syncope. Cumulative probability of initial appropriate shock is shown below. The largest incidence of initial appropriate shocks occurs during the first year (17%), and subsequently remains fairly constant at 5%/year between the 2nd and 5th year. Conclusions: Pts remain at risk of VT/VF resulting in initial AICD discharge after the first year and require continued AICD protection even if they have not received an appropriate shock within 5 years of the initial AICD generator implant. Generator replacement is thus recommended for all pts.